

Work Order ID 145968

Friday, May 06, 2016 8:56:13 AM

145968

Page 1

Item ID: D4151-3

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Hardpoint Plate

Start Date: 5/3/2016 Start Qty: 20.00

Required Date: 5/5/2016 Req'd Qty: 20.00

~~*20*~~

~~*20*~~

+23 98

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: dm Date: 16/05/06 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4151	C

100

0.00

100

Waterjet

FLOW CNC Waterjet

Memo

Cut as per dwg D4151

Prog Rev: C

Dwg Rev: C

Deburr as required

0.80

23

PR 2016/08/03

DAS

45

9-89

2016-8-4

PTD →

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Quality Control

Memo

0.20

23

PR 2016/08/03

DAS

45

9-89

2016-8-4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	OTHER : _____							
Misidentified	☐	Past Due								

DQA:

Date: 16.08.29



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 16.08.10

Work Order update only ☐

Work Order: 145968	DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. D4151-3	Rework ☒	Skid-tube ☐	Crosstube ☐	Water Jet ☒	Engineering ☐	
NCR No. 16-3960	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐		

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	16-08-05	100	all	Holes in part where found to be inconsistent, varying dimension and some with tapered R.C. operator, setup.	DAS 9 9-89 16-08-05	Rework holes as per drawing using drill bit Deburr Deburr Fill in new F.A.I.	PR 16/08/08	DAS 16 9-89 16/08/08	DAS 16 9-89 16/08/08
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator ☒									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear		General			
☐ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions	☐ Pressure/Forced	
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☒ Over/Under tolerance	☐ Set-up	
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect	☐ Temperature/Cure	
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing	☐ Weld	
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved	☐ Wrong Stock Pulled	
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☐ Positioned Wrong		
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Power Loss/Surge	☐ Other	
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread			
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set			
☐ Turning Sequence	☐ Finish	☐ Out of Calibration			
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence			

Work Order ID 145968***145968***

Page 2

Friday, May 06, 2016 8:56:13 AM

Item ID: D4151-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Hardpoint Plate
Start Date: 5/3/2016 Start Qty: 20.00 ***20*** Cust Item ID:
Required Date: 5/5/2016 Req'd Qty: 20.00 ***20*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.40							
Quality Control									
150	Identify as per dwg & Stock Location: <u>51087</u>	0.00							
150									
Packaging	Memo	0.20							
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	2.00							
Quality Control									

(23)

control

16/08/15

23 Re

AUG 09 2016

16/08/15

SHA AUG 09 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				OTHER : ☐			

Picklist Print

Friday, May 06, 2016 8:56:12 AM

Page 1

Work Order ID: 145968

145968

Parent Item: D4151-3

D4151-3

Parent Item Name: Upper Hardpoint Plate

Start Date: 5/3/2016

Required Date: 5/5/2016

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC
IPP Rev:B 11.01.21 as per dwg revC DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304S11GA		Purchased		No		100	sf	146.7373	0.055	1.157894			
-----------	--	-----------	--	----	--	-----	----	----------	-------	----------	--	--	--

M304S11GA

304/316 0.125 Sheet

PR 2016/08/03

Location

Loc Qty

Loc Code

MAT020

101.85098

M129545

24.82498

M129972

21.7

M134284

55.326

TPI

44.8863

M134604

44.8863

M135355

1.5

DQA: _____ Date: _____

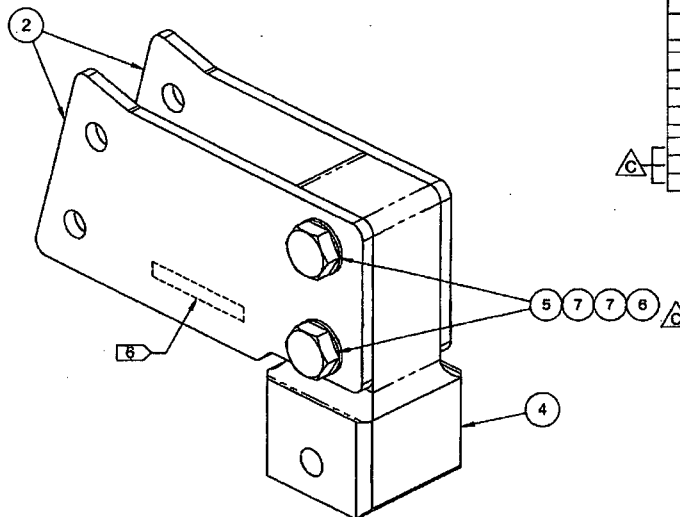


WORK ORDER NON-CONFORMANCE / UPDATE

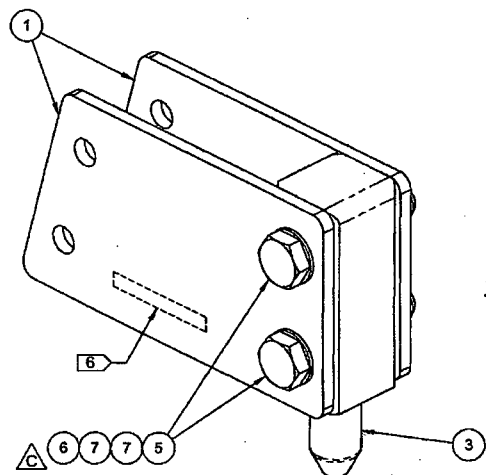
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
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Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																



D4151-043 BASKET FWD HARDPOINT ASSY (UPPER)



D4151-041 BASKET FWD HARDPOINT ASSY (LOWER)

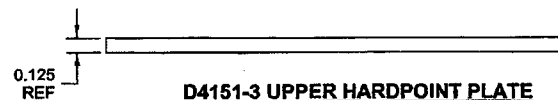
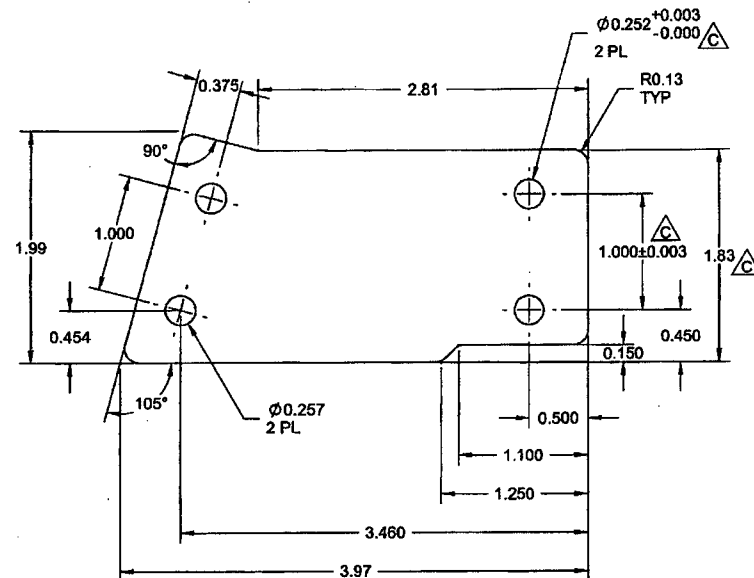
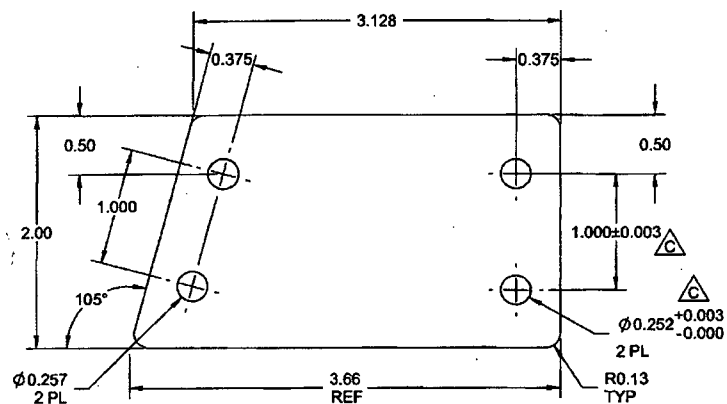
ITEM	QTY -041	QTY -043	P/N	DESCRIPTION
	X		D4151-041	BASKET FWD HARDPOINT ASSY (LOWER)
		X	D4151-043	BASKET FWD HARDPOINT ASSY (UPPER)
1	2		D4151-1	LOWER HARDPOINT PLATE
2		2	D4151-3	UPPER HARDPOINT PLATE
3	1		D4151-5	FWD BASKET INSTL STUD (LOWER)
4		1	D4151-7	FWD EYEBOLT RECEIVER (UPPER)
5	2	2	AN4C13A	BOLT
6	2	2	MS21043-4	NUT
7	4	4	NAS1149C0432R	WASHER

RELEASED
2011-01-18

- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4151-04X" USING FINE POINT PERMANENT INK MARKER
 - 7) WEIGHT:
 - D4151-041 = 0.88 lbs
 - D4151-043 = 1.17 lbs

C	AN4 HARDWARE WAS AN3 (B8-1, C3-1 & D3-1); Ø0.252 WAS Ø0.191 (C3-2, D1-2); TIGHTENED TOL ON 1.000 DIM (C5-2, D1-2, C7-3, C3-3); Ø0.250 WAS Ø0.191 (C8-3, B4-3); 1.83 WAS 1.75 (C1-2), 2.84 WAS 2.78 (B3-3) AND 1.88 WAS 1.80 (C1-3) TO PRESERVE 1.5ED. REASON: SEE D407-787 DESIGN JOURNAL.	MB	10.12.14
B	ADDED D4151-6/7 (SHT 3); D4151-5 WAS D3811-1 (ZN B6-1 & D3-1); D4151-7 WAS D3811-3 (ZN C4-1 & D3-1) ITEMS #5, 6 & 7 REPLACE MS20815-4M20 (ZN C3-1, D3-1 & B8-1); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN C5-2); Ø0.191 2 PL REPLACES Ø0.129 4 PL (ZN D1-2). REASON: SEE TR-D350-607-2 REV. B.	MB	10.07.06
A	NEW ISSUE	MB	10.06.22
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.12.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4151 REV. C SHEET 1 OF 3 TITLE BASKET FWD HARDPOINT SCALE NTS COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL. NO REPRODUCTION OR DISSEMINATION OF THIS DOCUMENT IS PERMITTED WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

w/o 145968 2m 16/05/06



NOTES:

1) MATERIAL: 303/304/316 STAINLESS STEEL SHEET ANNEALED 2B, 0.125 THK
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF. DART SPEC. M304S11GA OR M303S11GA

2) FINISH: NONE

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY AT ASSEMBLY

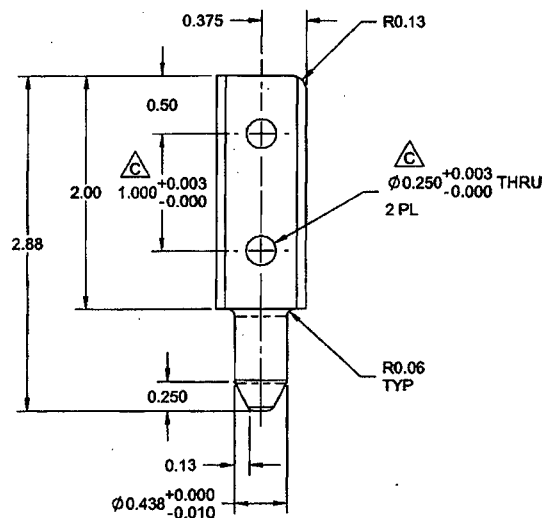
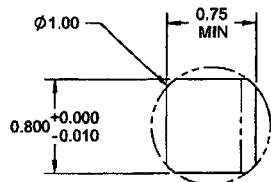
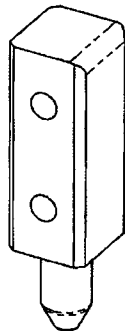
7) WEIGHT:

- D4151-1 = 0.24 lbs

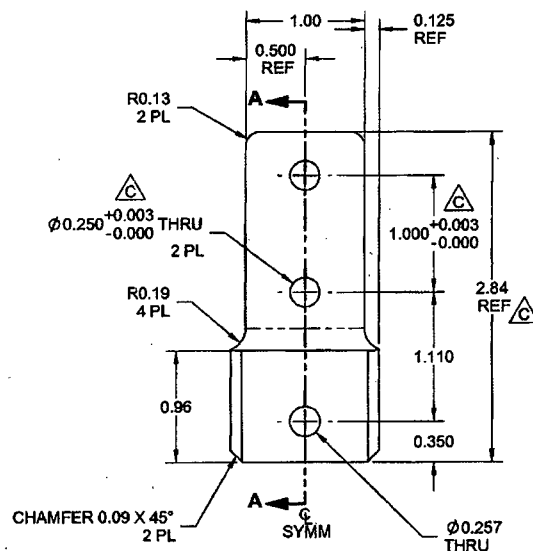
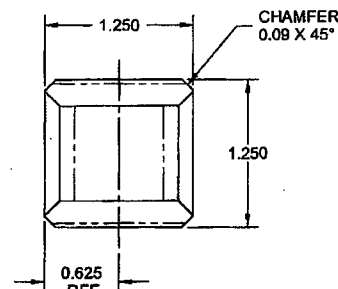
- D4151-3 = 0.23 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	SC	DRAWING NO.	REV. C
MFG. APPR.		D4151	SHEET 2 OF 3
APPROVED	AM	TITLE	SCALE
DE APPR.		BASKET FWD HARDPOINT	
DATE	10.12.14	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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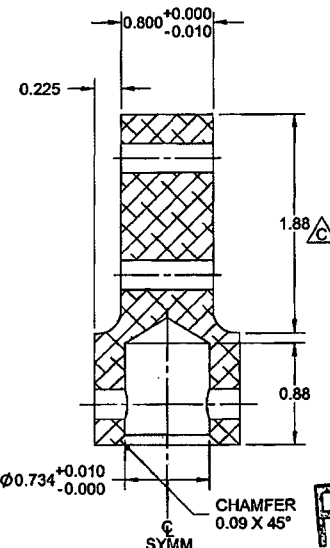
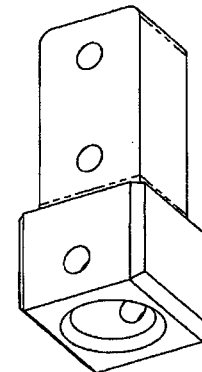
RELEASED
2011-01-18
MD



D4151-5 FWD BASKET INSTL STUD (LOWER)



D4151-7 FWD EYEBOLT RECEIVER (UPPER)



SECTION A-A

NOTES:

- 1) MATERIAL -5: 303/304/316 STAINLESS STEEL ROUND BAR, PER ASTM A276 OR ASTM A582
PER DART SPEC M303R OR M304R
- 7: 303/304/316 STAINLESS STEEL BAR, PER ASTM A276 OR ASTM A582
PER DART SPEC M303B OR M304B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT ASSEMBLY
- 7) WEIGHT -5: 0.36 lbs
-7: 0.70 lbs

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. D4151	REV. C
MFG. APPR.			SHEET 3 OF 3
APPROVED		TITLE BASKET FWD HARDPOINT	SCALE
DE APPR.			NTS
DATE	10.12.14	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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2011-07-13
RELEASED